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VARIETY REDUCTION EFFECTED BY THE APPLICATION OF SIMPLIFIED PRACTICE

The demands of war upon our resources, and upon our capacity to produce, tower staggeringly above any requirements we have heretofore thought possible of attainment, and dwarf any goals we have heretofore set for ourselves. To meet those demands every resource must be husbanded with the utmost care; every productive process keyed to the highest pitch. Raw materials must be fabricated into finished products, and products must be put into use with the minimum of delay. Every hesitation in the movement of material through the channels of production and distribution, whether it be in inventories of raw stocks or finished products, in factories, in jobbers' warehouses, or on dealers' shelves, reduces the effectiveness of the material. Every unnecessary operation reduces the productivity of our manpower. And both inevitably result when things are produced in unnecessarily large variety.

We have been accustomed to producing most of our common, everyday commodities in a large variety of lengths, widths, heights, thicknesses, weights, capacities, shapes, grades, etc. But each added item exacts its toll of material immobilized, of machinery rendered idle, and of manhours made unproductive, to mention but a part. It is the purpose of simplification to prevent this.

Just as in the last war, simplification is being applied as rapidly as possible. Products requiring critical materials for their manufacture are being simplified on the initiative of the war agencies themselves. In other fields industries and their customers are cooperating with the National Bureau of Standards to make their curtailed supplies go farther and to increase the efficiency of their operation through the application of Simplified Practice.

Simplified Practice means reduction of excessive variety of manufactured products, or of methods. Simplified Practice Recommendations are records of stock items retained after superfluous varieties have been eliminated. These recommendations are developed by voluntary cooperation among manufacturers, distributors, consumers, and other interests, through a regular procedure of the National Bureau of Standards established for that purpose; a procedure designed to insure not only the initial success of a program, but also its regular review, thereafter, and revision whenever, and as often as necessary, to meet changing technological and economic conditions.[1]

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[1] For further information regarding the complete list of effective Simplified Practice Recommendations, and a description of the procedure used in their development, write to the Division of Simplified Practice, National Bureau of Standards, Washington, D. C. In your request, please mention this Letter Circular.

To illustrate achievements in the reduction of unnecessary variety, and, by example, to show the broad applicability of the procedure which has made them possible, there is presented herein for a selected list of commodities a comparison of the number of varieties produced under simplified practice with the number produced before simplified practice was applied.

The following brief notes suggest some of the more obvious advantages to be gained from a simplified practice program by the various participants.

TO THE MANUFACTURER: Longer factory-runs with fewer changes; less idle equipment; fewer idle manhours; less capital tied up in slow-moving stocks; simplified inspection requirements; less stock to handle; larger production-units; less special machinery; more prompt delivery; less chance of error in shipment; and less obsolescense in material and equipment.

TO THE JOBBER, WHOLESALER, AND RETAILER: Increased turnover; elimination of slow-moving stock; staple lines—easy to buy, and quick to sell; greater concentration of sales efforts on fewer items; decreased capital invested in new stocks and repair parts; less storage space required; and decreased overhead and handling charges.

TO THE CONSUMER: Better values than otherwise possible; better service in delivery and repairs; and better quality of products.

Simplification may be applied quickly, as an emergency measure, to meet the wartime need for economy and efficiency, for conservation of materials, control of inventories, etc. Furthermore, when the war is over, the established Simplified Practice Recommendations will tend to prevent a recurrence of the unnecessary multiplication of variety which occurred in many fields following the last war.

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VARIETY REDUCTION EFFECTED BY THE APPLICATION OF SIMPLIFIED PRACTICE

Item	Varieties		Percent reduction	S.P.R. number
	Before simplification	After simplification		
Abrasive products, coated	8,000	1,755	78	89-40
Asphalt	102	11	89	4-36
Axes, forged	845	199	77	158-41
Bags, glassine....sizes	124	26	79	107-31
Bags, paper, grocers'	61	47	23	42
Bags, paper, notion and millinery....sizes	188	22	88	129-41
Barrels, steel; and drums....capacities	66	26	61	20-28
Bars, steel, reinforcing	32	11	66	26-30
Bars, steel, spiral, reinforcing....sizes	7	4	43	53-32
Beds, hospital.... lengths	33	1	97	24-37
Beds, hospital.... widths	34	1	97	24-37
Beds, hospital.... heights	44	1	98	24-37
Bell bottom screw jacks	78	27	78	97-42
Blackboard, composition.... colors	3	2	33	75-29
Blackboard, composition.... widths	18	3	83	75-29
Blackboard, composition.... lengths	90	5	94	75-29
Blankets	78	11	86	11-36
Board, binders'	718	10	99	81-28
Board, box....thicknesses	244	96	61	44-36
Boilers, range; and expansion tanks	130	13	90	8-29
Boilers, range, non-ferrous	200	36	82	181-41
Boilers, steel, horizontal firebox heating	2,328	38	98	157-37
Bolts, machine, carriage and lag, steel....stock production sizes	896	584	31	169-37
Bolts, plow	1,500	840	44	23
Books, composition....varieties	76	41	46	84-28
Bottles, carbonated beverage.. Soda and imported ginger ale.... shapes	15	12	20	123-30
Bottles, carbonated beverage.. Soda and imported ginger ale.... capacities	15	12	20	123-30
Bottles, carbonated beverage.. Soda and imported ginger ale.... heights	78	6	92	123-30
Bottles, carbonated beverage.. Soda and imported ginger ale.... wt. of glass	16	8	50	123-30
Bottles, carbonated beverage.. Water and water-shape ginger ale.... capacities	11	3	73	123-30
Bottles, carbonated beverage.. Water and water-shape ginger ale.... heights	13	3	77	123-30
Bottles, carbonated beverage.. Water and water-shape ginger ale.... wt. of glass	18	4	78	123-30
Bottles, carbonated beverage.. Beers, export, select or C.S.... capacities	8	3	62	123-30
Bottles, carbonated beverage.. Beers, export, select or C.S.... heights	18	2	89	123-30
Bottles, carbonated beverage.. Beers, export, select or C.S.... wt. of glass	18	2	89	123-30
Bottles, milk and cream, and bottle caps	49	4	92	10
Boxes, corrugated and solid fiber for canned fruits and vegetables	150	97	55	146-41
Boxes, corrugated, for department and specialty store use....sizes	322	61	81	128-41
Boxes, folding, for department and specialty store use....sizes	262	23	88	127-41
Boxes, folding, one-pound for coffee	100	2	98	64-30
Boxes, set-up....sizes	1,084	75	93	126-41
Brass or bronze valves....pressure ratings	11	5	50	183-42
Brick, common; and rough and smooth face brick	75	2	97	7
Brick, paving, vitrified	66	5	92	1-40
Brick, sand-lime	45	1	98	38-37
Brushes, calcimine, block sizes for.... widths	47	10	79	121-31
Brushes, calcimine, block sizes for.... thicknesses	34	8	76	121-31
Brushes, paint and varnish	480	143	70	43-28
Cans, fruit and vegetable (names, dimensions, capacities, and designated use)	200	39	80	155-40
Cans, tinned, steel, ice cream, types and sizes	14	5	64	164-36
Canton flannels, cotton, unbleached, for work gloves....weights	18	9	50	186-42
Caps, bottle, milk and cream; and milk and cream bottles	49	4	92	10
Cartons, ice cream; and ice cream brick molds....mold sizes	30	1	97	120-40
Cartridges, metallic	348	150	57	62-39
Cases, flashlight, metal and nonconducting	50	17	66	68-41
Chain, welded	1,831	1,214	34	100-29
Checks, guest, restaurant.... Cardboard checks.... grades	4	3	25	113-30
Checks, guest, restaurant.... Cardboard checks.... widths	12	5	58	113-30
Checks, guest, restaurant.... Cardboard checks.... lengths	16	14	12	113-30
Checks, guest, restaurant.... Paper checks.... grades	7	4	43	113-30
Checks, guest, restaurant.... Paper checks.... widths	10	8	20	113-30

VARIETY REDUCTION EFFECTED BY THE APPLICATION OF SIMPLIFIED PRACTICE—Continued

Item	Varieties		Percent reduction	S.P.R. number
	Before simplification	After simplification		
Chinaware, cafeteria and restaurant	700	309	56	33
Chinaware, dining car	700	345	51	39
Chinaware, hospital	700	345	51	40
Chinaware, hotel	700	258	63	5
Cloth, screen, wire insect	360	154	57	122-31
Conductors, copper, for building purposes	29	17	41	180-41
Containers (cans), fruit and vegetable, (names, dimensions, capacities, and designated use)	200	39	80	155-40
Containers (cans), tinned, steel, ice cream, types and sizes	14	5	64	164-36
Containers, extracted honey—sizes	65	11	82	156-41
Containers, glass; for cottage cheese and sour cream—sizes	20	3	85	148-33
Containers, glass for mayonnaise and kindred products—capacities	25	5	80	131-35
Containers, glass for preserves, etc.—preserve jars	40	9	77	91-32
Containers, glass for preserves, etc.—jelly glasses	25	7	72	91-32
Containers, glass for preserves, etc.—apple butter jars	6	4	33	91-32
Copper conductors for building purposes	29	17	41	180-41
Corrugated and solid fiber boxes for canned fruits and vegetables	150	97	55	146-41
Cups, ice cream; and cup caps—cups	16	5	69	132-36
Cups, ice cream; and cup caps—caps	15	6	60	132-36
Ducts, pipes and fittings for warm air heating and air conditioning	5,580	759	86	191-42
Drums, steel; and barrels—capacities	66	26	61	20-28
Duck, cotton	460	94	80	27-36
Eaves trough, conductor pipe, and fittings, and ridge rolls	110	79	28	29-42
Extracted honey packages	65	11	82	156-41
Fencing, woven-wire; and woven-wire fence packages—styles	552	71	87	9-28
Fencing, woven-wire; and woven-wire fence packages—pkg. sizes	2,072	200	90	9-28
Files and rasps	661	377	43	6-40
Fittings, eaves trough, conductor pipe, and ridge rolls—varieties	110	79	28	29-42
Fittings, pipe, (grey cast iron, malleable iron and brass or bronze)	8,566	2,969	65	185-42
Fittings, pipes, and ducts, for warm air heating and air conditioning	5,580	759	86	191-42
Flannels, cotton, canton, unbleached, for work gloves—weights	18	9	50	186-42
Flashlight cases, metal and nonconducting	50	17	66	68-41
Forges axes	845	199	77	158-41
Forged hatchets	242	89	63	160-41
Fungicides and insecticides—package sizes	38	25	34	41-40
Galvanized-ware, tinware and Japanned ware	1,154	873	24	55
Gauze, surgical	70	26	32	86-41
Goring, shoe, elastic—qualities	16	5	69	112-29
Goring, shoe, elastic—widths	13	9	31	112-29
Hammers, forged	386	180	53	159-37
Hatchets, forged	242	89	63	160-41
Honey, extracted, packages for	65	11	82	156-41
Insecticides and fungicides—package sizes	38	25	34	41-40
Investment, dental; plaster and artificial stone, packaging of—plaster	22	3	86	117-30
Investment, dental; plaster and artificial stone, packaging of—investment	26	13	50	117-30
Insulators, porcelain, one-piece	272	210	23	73
Iron-body valves, (pressure ratings)	12	3	75	184-42
Jacks, screw, bell bottom	78	27	78	97-42
Japanned ware, tinware, and galvanized ware	1,154	873	24	55
Lath, metal (expanded and sheet)	201	57	71	3-41
Lights; sidewalk, floor and roof—sizes	120	6	95	49
Lights; sidewalk, floor and roof—styles	80	5	94	49
Lights; sidewalk, floor and roof—shapes	10	2	80	49
Lining, brake, automobile	100	37	63	66

Item	Varieties: Before simplification	Varieties: After simplification	Percent reduction	S.P.R. number
Lockers, steel	65	23	64	35-28
Lumber, rotary cut, for wire-bound boxes: lengths	102	6	94	59
Lumber, rotary cut, for wire-bound boxes: widths	65	6	91	59
Lumber, rotary cut, for wire-bound boxes: thicknesses	9	6	33	59
Metal flashlight cases, and nonconducting	50	17	66	68-41
Metal lath, (expanded and sheet)	201	57	71	3-41
Millboard, asbestos; and asbestos paper: paper	72	20	72	19-37
Millboard, asbestos; and asbestos paper: millboard	21	5	76	19-37
Mirrors, dental cone-socket: sizes	7	4	43	137-32
Molds, brick, ice cream; and ice cream cartons: mold sizes	30	1	97	120-40
Nails, cut, small, and cut tacks: sizes	428	185	57	47-28
Nails, cut, small, and cut tacks: packages	423	127	70	47-28
Non-ferrous range boilers	200	36	82	181-41
Packages, extracted honey	65	11	82	156-41
Packages, salt	72	12	66	70-41
Packaging of dental plaster, investment, and artificial stone: plaster	22	3	86	117-30
Packaging of dental plaster, investment, and artificial stone: investment	26	13	50	117-30
Packaging of insecticides and fungicides	38	25	34	41-40
Packaging, woven-wire fence; and woven wire fencing: styles	552	71	87	9-28
Packaging, woven-wire fence; and woven wire fencing: pkg. sizes	2,072	200	90	9-28
Paper, asbestos; and asbestos millboard: paper	72	20	72	19-37
Paper, asbestos; and asbestos millboard: millboard	21	5	76	19-37
Paper, photographic	73	62	15	98-36
Pipe, conductor, eaves trough, and fittings, and ridge rolls	110	79	28	29-42
Pipe, wrought-iron and wrought-steel; and valves and fittings: pipe sizes	62	48	24	57-32
Pipe fittings, (grey cast iron, malleable iron and brass or bronze)	8,566	2,969	65	185-42
Pipe, stove, and accessories	209	67	70	190-42
Pipes, ducts and fittings for warm air heating and air conditioning	5,580	759	86	191-42
Plaster, adhesive	26	15	42	85-37
Plaster, dental; investment, and artificial stone, packaging of: plaster	22	3	86	117-30
Plaster, dental; investment, and artificial stone, packaging of: investment	26	13	50	117-30
Radiators, large-tube, cast iron	33	13	61	174-41
Range boilers (non-ferrous)	200	36	82	181-41
Rasps and files	661	377	43	6-40
Refractories, malleable foundry	188	25	87	79-28
Ridge rolls, eaves trough, conductor pipe, and fittings	110	79	28	29-42
Roofing, iron and steel	292	178	39	78-28
Rubber, dental (base and veneering) colors	42	11	74	138-32
Salt packages	72	12	66	70-41
Scoops, shovels and spades (1st revision)	5,136	1,161	77	48
Screen cloth, insect, wire	360	154	57	122-31
Screw, jacks, bell bottom	78	27	78	97-42
Shells, loaded paper shot	4,067	262	94	31-39
Shovels, spades and scoops (1st revision)	5,136	1,161	77	48
Slate, blackboard	251	25	90	15-35
Slate, roofing: possible sizes	1,260	309	75	14-28
Slate, structural	827	118	81	13-28
Spades, shovels, and scoops (1st revision)	5,136	1,161	77	48
Spirals, steel, reinforcing: sizes	7	4	43	53-32
Spools, metal, for annealing, handling, and shipping wire	8	6	25	63
Steel, sheet	1,630	209	87	28-29
Stone, artificial, dental; plaster and investment, packaging of: plaster	22	3	86	117-30
Stone, artificial, dental; plaster and investment, packaging of: investment	26	13	50	117-30
Stove pipe and accessories	209	67	70	190-42
Surgical gauze	70	26	32	86-41
Sweeps, floor: block lengths	11	7	36	88-37
Tacks, cut, and small cut nails: sizes	428	185	57	47-28
Tacks, cut, and small cut nails: packages	423	127	70	47-28
Tags, shipping, paper: sizes	16	8	50	93-39

Item	Varieties		Percent reduction	S.P.R. number
	Before simplification	After simplification		
Tanks, expansion; and range boilers	130	13	90	8-29
Tanks, storage, hot water.....dimensions and capacities..	120	14	88	25
Tape, sealing, paper, No. 1 kraft.....weights of paper..	8	3	62	114-30
Textiles, cotton, hospital and institutional	454	26	94	74-30
Tile, building, hollow	36	22	39	12
Tinware, galvanized, and Japanned ware	1,154	873	24	55
Tools, forged	665	503	24	17-35
Towels, terry, fast selvage.....sizes..	74	6	92	119-31
Traps, lavatory and sink, brass	1,114	76	93	21
Trough, eaves, conductor pipe, and fittings, and ridge rolls	110	79	28	29-42
Turnbuckles.....sizes..	248	115	54	71-28
Twines, hard-fiber.....(ply and yarn goods)..	1,304	1,176	10	92-38
Units, building, concrete	45	22	51	32-38
Valves, brass or bronze.....(pressure ratings)..	11	5	50	183-42
Valves, iron-body.....(pressure ratings)..	12	3	75	184-42
Wheelbarrows	125	27	78	105-32
Wheels, brush, dental	50	10	80	116-30
Wheels, buffing, full disk, stock diameters	17	11	35	115-30
Wheels, grinding	715,200	254,400	64	45-39
Wheels, grinding, dental lathe	91	10	89	130-32

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